

A System For Naming Faces And Vertices In An  
Adaptive Hierarchical Subdivision Surface

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ABSTRACT OF THE DISCLOSURE

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The present invention assigns a unique name or identifier to a face of a subdivision surface that can be stored and manipulated as a fixed length integer. The face name representation includes a base face index field identifying the base mesh face from which the face being named is derived, a vertex index field identifying the base mesh vertex from which the face is derived, a level field identifying the level of the subdivision face and a path field that identifies the path to the face. The vertices and edges of each face can also be assigned unique names.